

**INTEGRATION OF AMORPHOUS SILICON TRANSMIT AND RECEIVE
STRUCTURES WITH GaAs OR InP PROCESSED DEVICES**

ABSTRACT OF THE DISCLOSURE

A device and a process for integrating light energy transmit and/or receive functions with active devices such as GaAs or InP devices or light emitting devices, such as lasers.

The device and process includes forming a passivation layer on top of the active device and forming a silicon photodetector on top of the passivation layer. The photodetector may be formed utilizing a standard solar cell growth process and may be formed as a mesa on top of the active or light-emitting device, thus forming a relatively less complicated semiconductor with an integrated monitoring device.